AMENDMENTS TO THE CLAIMS

Claims 1-20 are pending in the instant application. Claims 1-6 and 16-20 have been cancelled. Claims 7-9 and 12 have been amended. New claims 21-50 have been added. The Applicant requests reconsideration of the claims in view of the following amendments reflected in the listing of claims.

Listing of claims:

1. - 6. (Cancelled)

7. (Currently Amended) A video scaler, comprising:

an input for receiving a video image;

a scaler engine capable of both downscaling the video image to generate a first scaled video image and upscaling the video image to generate a second scaled video image, the scaler engine using a clock selected between a video input clock and a display output clock;

a memory capable of storing the video image or the first scaled video image; and

means for determining whether the video image is to be downscaled or upscaled.

8. (Currently Amended) The video scaler of claim 7, ~~further~~ comprising:

first means capable of receiving the video image to be upscaled from the input, receiving the first scaled video image from the scaler engine, and providing the video image to be upscaled or the first scaled video image to the memory;

second means capable of receiving the video image to be downscaled from the input, receiving the video image to be upscaled from the memory, and providing the video image to be downscaled or the video image to be upscaled to the scaler engine; and

third means capable of receiving the first scaled video image from the memory, receiving the second scaled video image from the scaler engine, and outputting either the first scaled video image or the second scaled video image.

9. (Currently Amended) The video scaler of claim 8, ~~further~~ comprising fourth means capable of receiving and selecting between a digital video image and a digitized analog video image, and the fourth means outputs the selected one of the digital video image and the digitized analog video image as the video image.

10. (Original) The video scaler of claim 7, wherein the scaler engine downscales the video image using the video input clock.

11. (Original) The video scaler of claim 7, wherein the scaler engine upscales the video image using the display output clock.

12. (Currently Amended) The video scaler of claim 7, ~~further~~ comprising a plurality of line buffers for providing the video image to the input.

13. (Original) The video scaler of claim 7, wherein the scaler engine comprises a horizontal scaler and a vertical scaler.

14. (Original) The video scaler of claim 13, wherein at least one of the horizontal scaler and the vertical scaler comprises a programmable filter.

15. (Original) The video scaler of claim 7, wherein the scaler engine is a single physical device that is logically in both an upscale path and a downscale path of the video image.

16. – 20. (Cancelled)

21. (New) A method for processing video data, the method comprising:

receiving a video image by a video scaling engine;

determining whether the video scaling engine requires less memory space to scale the video image before writing the video image to memory or after reading the video image from the memory; and

scaling the received video image based on the determination.

22. (New) The method according to claim 21, comprising:

if the video scaling engine requires less memory space to scale the video image before writing the video image to the memory:

a) scaling the video image in the video scaling engine using a video input clock of the video scaling engine to generate a first scaled video image;

b) writing the first scaled video image to the memory;

c) reading the first scaled video image from the memory; and

d) outputting the first scaled video image.

23. (New) The method according to claim 22, comprising:

if the video scaling engine requires less memory space to scale the video image after reading the video image from the memory:

e) writing the video image to the memory prior to scaling;

f) reading the video image from the memory;

g) scaling the video image in the video scaling engine using a display output clock of the video scaling engine to generate a second scaled video image; and

h) outputting the second scaled video image.

24. (New) The method of claim 21, wherein scaling the video image comprises scaling the video image up or down, and horizontally or vertically.

25. (New) The method of claim 22, wherein the first scaled video image is a downscaled video image.

26. (New) The method of claim 23, wherein the second scaled video image is an upscaled video image.

27. (New) The method of claim 21, wherein the determining comprises determining whether the video image is to be downscaled or upscaled.

28. (New) The method of claim 22, comprising blending the first scaled video image with a graphics image to generate a blended video and graphics image.

29. (New) The method of claim 23, comprising blending the second scaled video image with a graphics image to generate a blended video and graphics image.

30. (New) A method for processing video data, the method comprising:

receiving a video image by a video scaling engine;

determining whether the video scaling engine requires less memory bandwidth to scale the video image before writing the video image to memory or after reading the video image from the memory; and

scaling the received video image based on the determination.

31. (New) The method according to claim 30, comprising:

if the video scaling engine requires less memory bandwidth to scale the video image before writing the video image to the memory:

a) scaling the video image in the video scaling engine using a video input clock of the video scaling engine to generate a first scaled video image;

b) writing the first scaled video image to the memory;

c) reading the first scaled video image from the memory; and

d) outputting the first scaled video image.

32. (New) The method according to claim 31, comprising:

if the video scaling engine requires less memory bandwidth to scale the video image after reading the video image from the memory:

e) writing the video image to the memory prior to scaling;

f) reading the video image from the memory;

g) scaling the video image in the video scaling engine using a display output clock of the video scaling engine to generate a second scaled video image; and

h) outputting the second scaled video image.

33. (New) The method of claim 30, wherein the determining comprises determining whether the video image is to be downscaled or upscaled.

34. (New) The method of claim 31, wherein scaling the video image prior to storing it in the memory comprises downscaling the video image.

35. (New) The method of claim 32, wherein scaling the video image using the display output clock comprises upscaling the video image.

36. (New) The method of claim 31, comprising blending the first scaled video image with a graphics image to generate a blended video and graphics image.

37. (New) The method of claim 32, comprising blending the second scaled video image with a graphics image to generate a blended video and graphics image.

38. (New) The method of claim 31, wherein the first scaled video image is a downscaled video image.

39. (New) The method of claim 32, wherein the second scaled video image is an upscaled video image.

40. (New) A video scaler, comprising:

a scaler engine capable of both downscaling a video image to generate a first scaled video image and upscaling the video image to generate a second scaled video image, the scaler engine using a clock selected between a video input clock and a display output clock, and the video image received via an input of the video scaler;

a memory capable of storing the video image or the first scaled video image; and

one or both of circuitry and/or code that determines whether the video image is to be downscaled or upscaled.

41. (New) The video scaler of claim 40, wherein said one or both of said circuitry and/or code receives the video image to be upscaled from the input, receives the first scaled video image from the scaler engine, and provides the video image to be upscaled or the first scaled video image to the memory.

42. (New) The video scaler of claim 40, wherein said one or both of said circuitry receives the video image to be downscaled from the input, receives the video image to be upscaled from the memory, and provides the video image to be downscaled or the video image to be upscaled to the scaler engine.

43. (New) The video scaler of claim 40, wherein said one or both of said circuitry receives the first scaled video image from the memory, receives the second scaled video image from the scaler engine, and outputs either the first scaled video image or the second scaled video image.

44. (New) The video scaler of claim 40, wherein said one or both of said circuitry receives and selects between a digital video image and a digitized analog video image, said at least one circuitry outputs the selected one of the digital video image and the digitized analog video image as the video image.

45. (New) The video scaler of claim 40, wherein the scaler engine downscales the video image using the video input clock.

46. (New) The video scaler of claim 40, wherein the scaler engine upscales the video image using the display output clock.

47. (New) The video scaler of claim 40, comprising a plurality of line buffers for providing the video image to the input.

48. (New) The video scaler of claim 40, wherein the scaler engine comprises a horizontal scaler and a vertical scaler.

49. (New) The video scaler of claim 48, wherein at least one of the horizontal scaler and the vertical scaler comprises a programmable filter.

50. (New) The video scaler of claim 40, wherein the scaler engine is a single physical device that is logically in both an upscale path and a downscale path of the video image.